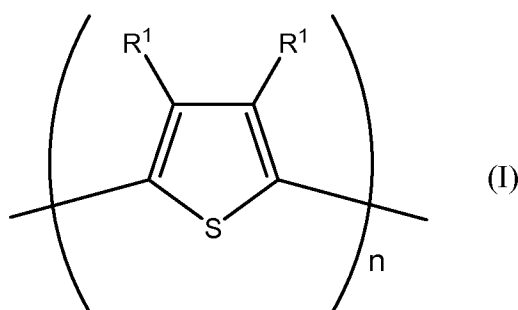


## Listing of Claims

1. (Previously Presented) An electronic device comprising an anode, a buffer layer, and an active organic material layer, wherein the buffer layer is a composite comprising a first layer comprising at least one doped conductive polymer and a second layer comprising a material selected from a colloid-forming polymeric acid, a salt of a colloid-forming polymeric acid, a non-polymeric fluorinated organic acid, and a salt of a non-polymeric fluorinated organic acid, wherein the composition of the first layer and the second layer is different, and further wherein at least one additional layer is interposed between the first layer and the second layer.

2. (Previously Presented) An electronic device according to Claim 1, wherein the conductive polymer is selected from polythiophenes, polypyrroles, polyanilines, and combinations thereof.

3. (Previously Presented) An electronic device according to Claim 2, wherein the polythiophene comprises Formula I:

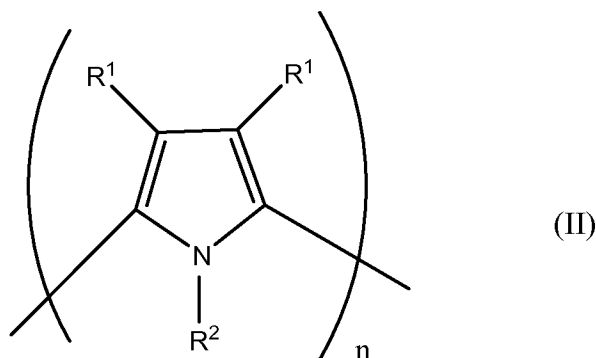


wherein:

R<sub>1</sub> is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkylthio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, and urethane; or both R<sub>1</sub> groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered

aromatic or alicyclic ring, which ring may optionally include one or more divalent nitrogen, sulfur or oxygen atoms, and n is at least about 4.

4. (Previously Presented) An electronic device according to Claim 2, wherein the polypyrrole comprises Formula II:



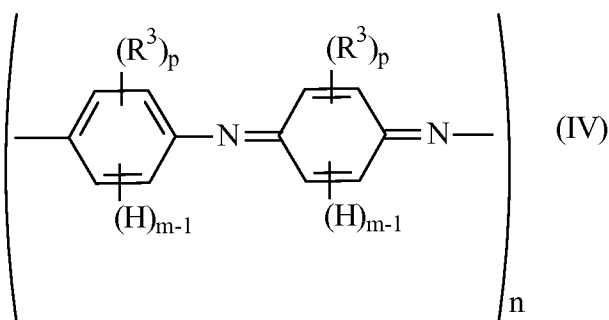
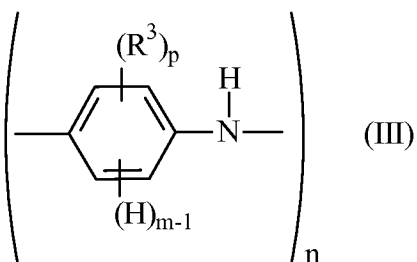
wherein:

n is at least about 4;

R<sub>1</sub> is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkylthio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, and urethane; or both R<sub>1</sub> groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more divalent nitrogen, sulfur or oxygen atoms; and

R<sub>2</sub> is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, aryl, alkanoyl, alkylthioalkyl, alkylaryl, arylalkyl, amino, epoxy, silane, siloxane, alcohol, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, and urethane.

5. (Previously Presented) An electronic device according to Claim 2, wherein the polyaniline comprises Formula III or Formula IV:



wherein:

n is at least about 4;

p is an integer from 0 to 4;

m is an integer from 1 to 5, with the proviso that  $p + m = 5$ ; and

R<sup>3</sup> is independently selected so as to be the same or different at each occurrence

and is selected from alkyl, alkenyl, alkoxy, cycloalkyl, cycloalkenyl, alkanoyl,

alkylthio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino,

dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio,

arylsulfinyl, alkoxycarbonyl, arylsulfonyl, carboxylic acid, halogen, cyano, or

alkyl substituted with one or more of sulfonic acid, carboxylic acid, halo, nitro,

cyano or epoxy moieties; or any two R<sup>3</sup> groups together may form an alkylene

or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic

ring, which ring may optionally include one or more divalent nitrogen, sulfur or

oxygen atoms.

6. (Previously Presented) An electronic device according to Claim 1, wherein said colloid-forming polymeric acid is selected from polymeric sulfonic acids, polymeric phosphoric acids, polymeric phosphonic acids, polymeric carboxylic acids, polymeric acrylic acids, and mixtures thereof.

7. (Previously Presented) An electronic device according to Claim 6, wherein said colloid-forming polymeric acid comprises a fluorinated polymeric sulfonic acid.

8. (Previously Presented) An electronic device according to Claim 7, wherein said polymeric sulfonic acid is perfluorinated.

9. (Previously Presented) An electronic device according to Claim 1, wherein said non-polymeric fluorinated organic acid is selected from non-polymeric fluorinated sulfonic acids, non-polymeric fluorinated phosphoric acids, non-polymeric fluorinated phosphonic acids, non-polymeric fluorinated carboxylic acids, non-polymeric fluorinated acrylic acids, and mixtures thereof.

10. (Previously Presented) An electronic device according to Claim 1, wherein said non-polymeric fluorinated organic acid is selected from fluoroamido organic acids, fluoroamidoether organic acids, fluoroether organic acids, and combinations thereof.

11. (Previously Presented) An electronic device according to Claim 9, wherein said non-polymeric fluorinated organic acid is highly fluorinated.

12. (Previously Presented) An electronic device according to Claim 9, wherein said non-polymeric organic acid is perfluorinated.

13. (Previously Presented) An electronic device according to Claim 9, wherein said second layer comprises a fluoroether sulfonate having Formula V:



wherein  $R^7$  is a fluoroalkyl group,  $R_f$  and  $R'_f$  are independently selected from F, Cl or a perfluorinated alkyl group having 1 to 10 carbon atoms,  $a = 0, 1$  or  $2$ , and  $X$  is selected from  $H^+$ , metal cations, and  $N(R_1)(R_2)(R_3)(R_4)^+$  where  $R_1, R_2, R_3$ , and  $R_4$  are the same or different and are selected from H and alkyl.

14. (Previously Presented) An electronic device according to Claim 13, wherein R7 is selected from difluoromethyl and 1,1 ,2,2-tetrafluoroethyl.

15. (Previously Presented) An electronic device according to Claim 13, wherein the second layer comprises a material selected from a non-polymeric fluorosulfonic acid and a salt of the fluorosulfonic acid, wherein the fluorosulfonic acid is selected from 2-(1,1,2,3,3,3 -hexafluoro- 1 -(perfluoroethoxy)propane-2-yloxy)-1,1 ,2,2-tetrafluoroethanesulfonic acid, 1,1 ,2,2-tetrafluoro-2-(perfluoroethoxy)ethanesulfonic acid, and 2-(1 ,1,2,2-tetrafluoroethoxy)- 1,1 ,2,2-tetrafluoroethanesulfonic acid.

16. (Canceled)

17. (Canceled)

18. (Canceled)

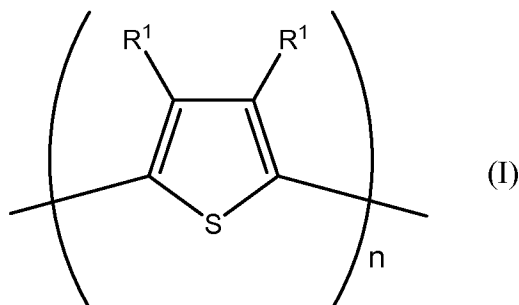
19. ( Currently Amended ) A thin film field effect transistor comprising at least ~~two one two~~ electrodes, ~~the wherein at least one electrode in an anode and—electrode—~~ comprising a composition of Claim 1 comprising a composite comprising— comprises a first layer comprising at least one doped conductive polymer and a second layer comprising a material selected from a colloid-forming polymeric acid, a salt of a colloid-forming polymeric acid, a non-polymeric fluorinated organic acid, and a salt of a non-polymeric fluorinated organic acid, wherein the composition of the first layer and the second layer is different, and further wherein at least one additional layer is interposed between the first layer and the second layer.

20. (Previously Presented) An electronic device according to Claim 1, wherein at least a portion of the first layer is in physical contact with at least a portion of the second layer.

21. (Canceled)

22. (Previously Presented) An organic light-emitting diode comprising an anode, a buffer layer, an electroluminescent layer, and a cathode, wherein the buffer layer is a composite comprising a first layer comprising at least one doped conductive polymer and a second layer comprising a material selected from a colloid-forming polymeric acid, a salt of a colloid-forming polymeric acid, a non-polymeric fluorinated organic acid, and a salt of a non-polymeric fluorinated organic acid, wherein the composition of the first layer and the second layer is different, and further wherein at least one additional layer is interposed between the first layer and the second layer.

23. (Currently Amended) A device according to Claim ~~24~~ 18, wherein at least one conductive polymer is a thiophene comprising Formula I:



wherein:

R<sub>1</sub> is independently selected so as to be the same or different at each occurrence and is selected from hydrogen, alkyl, alkenyl, alkoxy, alkanoyl, alkylthio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, acrylic acid, phosphoric acid, phosphonic acid, halogen, nitro, cyano, hydroxyl, epoxy, silane, siloxane, alcohol, benzyl, carboxylate, ether, ether carboxylate, ether sulfonate, and urethane; or both R<sub>1</sub> groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more divalent nitrogen, sulfur or oxygen atoms, and n is at least about 4.

24. (New) An electronic device according Claim 1, wherein the device is selected from the group consisting of diodes, photosensors, photoswitches, light emitting diodes, light-emitting diode displays, photodectors, phototransistors, diode lasers, solid electrolyte capacitors, field effect resistors, biosensors, photoconductive cells, solar cells, and photovoltaic, electrochromic, memory storage, energy storage, and electromagnetic shield devices.